CONTENTS OF VOLUME 97

Vol. 97A, No. 1

E. E. Southwick, D. W. Roubik and J. M. Williams	1	Comparative energy balance in groups of Africanized and European honey bees: ecological implications
D. Siebers, K. Böttcher, G. Petrausch and A. Hamann	9	Effects of some chloride channel blockers on potential differences and ion fluxes in isolated perfused gills of shore crabs Carcinus maenas
Mark S. Peterson	17	Hypoxia-induced physiological changes in two mangrove swamp fishes: sheepshead minnow, Cyprinodon variegatus Lacepede and sailfin molly, Poecilia latipinna (Lesueur)
G. T. H. Ellison and J. D. Skinner	23	Noradrenaline thermogenesis in conscious and anaesthetised pouched mice (Saccostomus campestris)
Kathy L. Knudsen and Delbert L. Kilgore Jr	27	$\label{thm:continuous} Temperature\ regulation\ and\ basal\ metabolic\ rate\ in\ the\ spotted\ skunk,\ Spilogale\ putorius$
J. Vanden Broeck, J. Cardoen, J. Neyts, K. Swinnen and A. De Loof	35	Detection of substances recognized by antisera directed against vertebrate somatotropin, prolactin and placental lactogen, within the brain of the insect <i>Locusta migratoria</i> : a comparison of immunocytochemical localization patterns
Gro-Ingunn Hemre, Øyvind Lie, Georg Lambertsen and Anne Sundby	41	Dietary carbohydrate utilization in cod (Gadus morhua). Hormonal response of insulin, glucagon and glucagon-like-peptide to diet and starvation
K. K. Kreikemeier, D. L. Harmon and J. L. Nelssen	45	Influence of hydrocortisone acetate on pancreas and mucosal weight, amylase and disaccharidase activities in 14-day-old pigs
Lars Hagerman, Tina Søndergaard, Klaus Weile, Deborah Hosie and Roger F. Uglow	51	Aspects of blood physiology and ammonia excretion in Nephrops norvegicus under hypoxia
M. W. Smith, M. A. Mitchell and M. A. Peacock	57	Effects of genetic selection on growth rate and intestinal structure in the domestic fowl (Gallus domesticus)
U. Altrup, A. Lehmenkühler, M. Madeja and EJ. Speckmann	65	Morphology and function of the identified neuron B3 in the buccal ganglia of Helix pomatia
Henning F. Bjerregaard and Robert Nielsen	75	Role of Ca^{2+} and prostaglandin in regulation of active Na^+ transport in frog skin
Shiro Shirakura, Taketoshi Furugohri and Yukiko Tokumitsu	81	Activation of glucose transport by activatory receptor agonists of adenylate cyclase in rat adipocytes
James D. Robertson	87	Ionic composition of the coelomic fluid of three marine worms, the priapulid <i>Priapulus caudatus</i> Lamarck, and the sipunculans <i>Sipunculus nudus</i> L. and <i>Golfingia vulgaris</i> (De Blainville)

Vol. 97A, No. 2

Mini Reviews

- J. J. Videler and B. A. Nolet
- 91 Costs of swimming measured at optimum speed: scale effects, differences between swimming styles, taxonomic groups and submerged and surface swimming

Christian Schwabe

101 New thoughts on the evolution of hormone-receptor systems

General Papers		
Jeannette E. Doeller, David W. Kraus and James M. Colacino	107	Simultaneous measurement of the rates of heat dissipation and oxygen consumption in marine invertebrates having and lacking hemoglobin
Hui-Minn Lee, Edward J. Parish and Leon W. Bone	115	Occurrence of mammalian sex steroids in the free-living nematode, <i>Turbatrix aceti</i>
R. W. Gauldie and D. G. A. Nelson	119	Otolith growth in fishes
R. W. Gauldie and R. L. Radtke	137	Microincrementation: facultative and obligatory precipitation of otolith crystal
Marie-Françoise Coustans, Jean Guillaume, Robert Metailier, Olivier Dugornay and Jean-Luc Messager	145	Effect of an ascorbic acid deficiency on tyrosinemia and renal granulomatous disease in turbot (Scophthalmus maximus) interaction with a slight polyhypovitaminosis
Arantxa Hernandorena	153	Comparative study of nutritional requirements in two axenically reared Artemia strains
Tracey Appleton and J. L. Wilkens	159	Habituation, sensitization and the effect of serotonin on the eyestalk withdrawal reflex of Cancer magister
Beverly A. Himick and J. G. Eales	165	Acute correlated changes in plasma T ₄ and glucose in physically disturbed cannulated rainbow trout, <i>Oncorhynchus mykiss</i>
Yibo Cui and Jiankang Liu	169	Comparison of energy budget among six teleosts—II. Metabolic rates
M. Zeman and Helena Illnerová	175	Ontogeny of N-acetyltransferase activity rhythm in pineal gland of chick embryo
Ç. Özesmi, P. Doğan, O. Bayindir and S. Aydoğan	179	Changes in serum protein lipid and electrolyte levels in rabbits at mid-altitude
A. M. Beal	185	Composition of sublingual saliva of the koala (Phascolarctos cinereus)
Atsushi Chiba, Masamitsu Hamaguchi, Masaaki Kosaka, Tatsuya Tokuno, Toshiharu Asai and Shiko Chichibu	189	Energy metabolism during contraction of the first ambulatory leg of the crayfish
P. J. Bentley	195	Unidirectional fluxes of Na^+ , Cl^- and water in fingerling channel catfish, <i>Ictalurus punctatus</i>
Etsumori Harada, Yoshiharu Hashimoto and Bunei Syuto	201	Epidermal growth factor accelerates the intestinal cessation of macromolecular transmission in the suckling rat
Hisashi Aratake, Li Rong Deng, Hiroshi Fujii, Yataka Kawaguchi and Katsumi Koga	205	Chymotrypsin inhibitors in haemolymph and eggs of the silkworm, <i>Bombyx mori</i> : developmental changes in inhibitory activity
Terry W. Snell and Melissa A. Nacionales	211	Sex pheromone communication in Brachionus plicatilis (Rotifera)
Vukosava Davidović, Sanja Glišić and Nasta Dedović	217	Implications of interscapular brown adipose tissue removal and sucrose overfeeding on the sympatho-adrenal activity and metabolic responses
S. J. Olds, Leon W. Bone and John C. Frandsen	221	Mineral content of the free-living nematode Turbatrix aceti and ruminant parasite Trichostrongylus colubriformis
Arinobu Ebara, Hiroyuki Uesaka and Hiroshi Yamagishi	223	Pacemaker activity in the heart of a beetle, Allomyrina dichotomus

Michel Genoud, Frank J. Bonaccorso and Alexis Arends	229	Rate of metabolism and temperature regulation in two small tropical insectivorous bats (<i>Peropteryx macrotis</i> and <i>Natalus</i>
and Alexis Arends		tumidirostris)
Maria Lúcia Pedrosa, Marcelo E. Silva, Márcio E. Silva, M. E. C. Silva, J. R. Nicoli and E. C. Vieira	235	The effect of iron deficiency and iron overload on the evolution of Chagas disease produced by three strains of <i>Trypanosoma cruzi</i> in CFW mice
J. Marder, U. Eylath, E. Moskovitz and R. Sharir	245	The effect of heat exposure on blood chemistry of the hyperthermic rabbit
R. C. Harris, D. J. Marlin, M. Dunnett, D. H. Snow and E. Hultman	249	Muscle buffering capacity and dipeptide content in the thoroughbred horse, greyhound dog and man
G. A. Bubenik, R. D. Brown and D. Schams	253	The effect of latitude on the seasonal pattern of reproductive hormones in the male white-tailed deer
Charles R. Blem and Karen L. Blem	259	Metabolic acclimation in three species of sympatric, semi-aquatic snakes
A. Ouahbi, C. Duchêne and R. Gilles	265	Comparative studies of volume restoration following cold- stress induced swelling in renal tissues—I. Effects of ouabain, K ⁺ free medium, colchicine and cytochalasin B on rat and rabbit kidney cortex slices
A. Ouahbi and R. Gilles	275	Comparative studies of volume restoration following cold- stress induced swelling in renal tissues—II. Effects of furosemide, amiloride and K ⁺ permeability in rabbit cortex slices
Torarinn Sveinsson and Toshiaki J. Hara	279	Analysis of olfactory responses to amino acids in arctic char (Salvelinus alpinus) using a linear multiple-receptor model
Torarinn Sveinsson and Toshiaki J. Hara	289	Multiple olfactory receptors for amino acids in arctic char (Salvelinus alpinus) evidenced by cross-adaptation experiments
	295	Book Reviews
	1	Vol. 97A, No. 3
Review		
Č. Lucu	297	Ionic regulatory mechanisms in crustacean gill epithelia
Mini Reviews		
Barney A. Schlinger and Gloria V. Callard	307	Aggressive behavior in birds: an experimental model for studies of brain-steroid interactions
D. B. Shennan	317	Mechanisms of mammary gland ion transport
General Papers		
Koji Ashizawa and Makoto Hori	325	Activation of dynein adenosine triphosphatase and flagellar motility of demembranated spermatozoa by monovalent salts at 40°C in the domestic fowl, Gallus domesticus
J. L. S. Cobb and Gordon Hendler	329	Neurophysiological characterization of the photoreceptor system in a brittlestar, <i>Ophiocoma wendtii</i> (Echinodermata: Ophiuroidea)
G. B. Proctor, B. Asking and J. R. Garrett	335	Effects of parasympathectomy on protein composition of sympathetically evoked parotid saliva in rats
Masataka Yoshino, Kanefusa Kato, Keiko Murakami, Yoshinao Katsumata, Masafumi Tanaka and Shigeo Mori	341	Shift of anaerobic to aerobic metabolism in the rats acclimatized to hypoxia

R. Hissa, H. Rintamäki, P. Virtanen, H. Lindén and V. Vihko	345	Energy reserves of the capercaillie Tetrao urogallus in Finland
S. Saarela, U. Petäjä-Repo and R. Hissa	353	Monoamines, thyroid hormones and energy reserves in developing capercaillie chicks (Tetrao urogallus: Tetraonidae)
L. Ambid, I. Castan, Cl. Atgié and M. Nibbelink	361	Food intake and peripheral adrenergic activity in a hibernating rodent, the garden dormouse
Charles R. Blem and Leann B. Blem	367	Lipid reserves of the brown water snake Nerodia taxispilota
Motoyuki Sumida, Yuuichi Yamada, Yukio Tanaka, Junji Shimabukuro, Morio Ohnishi, Hajime Mori and Fujiyoshi Matsubara	373	Changes in urea in the haemolymph of the silkworm, Bombyx mori in the fourth and the fifth larval instars and effect of starvation in the fifth instar on the level of urea in the pharate adults
Yibo Cui and Jiankang Liu	381	Comparison of energy budget among six teleosts—III. Growth rate and energy budget
Atsushi Chiba, Masamitsu Hamaguchi, Masaaki Kosaka, Toshiharu Asai, Tatsuya Tokuno and Shiko Chichibu	385	In vivo ³¹ P-NMR analysis of the electric anesthetized loach, Cobitis biswae
Andrea Sparti	391	Comparative temperature regulation of African and $\ensuremath{\mathbb{E}}$ uropean shrews
P. F. M. Teunis, F. Bretschneider and R. C. Peters	399	Synaptic latency in denervated electroreceptor organs
P. F. M. Teunis, F. Bretschneider and R. C. Peters	405	Convergence ratio and transduction in catfish electroreceptive organs
T. Pages, J. F. Fuster and L. Palacios	411	Some mechanical characteristics of the respiratory system of the fresh-water turtle Mauremys caspica
N. Hara, M. Ichinose, M. Sawada and T. Maeno	417	Extracellular ATP activates Ca^{2+} -dependent K^+ conductance via Ca^{2+} influx in mouse macrophages
J. Hoffman, U. Katz and U. Eylath	423	Urea accumulation in response to water restriction in burrowing toads (Bufo viridis)
Jan M. Bakke and Erik Figenschou	427	Volatile compounds from the red deer (Cervus elaphus). Substances secreted via the urine
Masamitsu Hamaguchi	433	The study of energy metabolism in denervated skeletal muscle with $^{31}\text{P-NMR}$
	439	Book Reviews
	1	Vol. 97A, No. 4
Mini Review		
H. Römer and W. J. Bailey	443	Insect hearing in the field
General Papers		
R. W. Gauldie and D. G. A. Nelson	449	Interactions between crystal ultrastructure and microincrement layers in fish otoliths
R. W. Gauldie, N. M. Davies, G. Coote and I. Vickridge	461	The relationship between organic material and check rings in fish otoliths

R. W. Gauldie

475 A measure of metabolism in fish otoliths

A. Garateix, J. L. Hernández, R. Más, 481 Effects of intra and extracellularly applied Condylactis gigantea L. Romero and M. A. Chávez phospholipase A on ionic currents of isolated molluscan neurons S. S. Awad and J. D. Welty Comparisons of hemodynamics throughout the life span of the Bio 14.6 cardiomyopathic with the F₁B normal hamster Bernhard Surholt, Heinrich Greive, Non-shivering thermogenesis in asynchronous flight muscles of bumblebees? Comparative studies on males of Bombus Thomas Baal and Andreas Bertsch terrestris, Xylocopa sulcatipes and Acherontia atropos Carmine A. Lanciani, James T. Giesel 501 Seasonal change in metabolic rate of Drosophila simulans and John F. Anderson Plasma ion balance of North American freshwater turtles Gordon R. Ultsch and Jeremy S. Wasser 505 during prolonged submergence in normoxic water Michiyori Kobayashi, Toru Nezu and 513 Hypoxic induction of hemoglobin synthesis in Daphnia magna Yuko Tanaka M. O. Nielsen, K. Jakobsen and 519 Changes in mammary blood flow during the lactation period in goats measured by the ultrasound Doppler principle J. N. Jørgensen 525 Hematologic and blood chemistry values for Sarotherodon Brad R. LeaMaster, James A. Brock, Roger S. Fujioka and melanotheron and a red hybrid tilapia in freshwater and Robert M. Nakamura seawater Sung Ik Yang, Mitsuhiro Furuse, Effect of phenylalanine on pancreatic amylase secretion in chicks (Gallus domesticus) Nobuhiro Sugishita and Jun-ichi Okumura Yukio Okada, Takenori Miyamoto Aldosterone increases gustatory neural response to NaCl in and Toshihide Sato Andrew J. Peacock, Cheryl Pickett, Spontaneous hypoxaemia and right ventricular hypertrophy in Ken Morris and John T. Reeves fast growing broiler chickens reared at sea level Large variations in skeletal muscle carnitine level fail to modify B. Simi, M. H. Mayet, B. Sempore and R. J. Favier energy metabolism in exercising rats Yibo Cui and Jiankang Liu Comparison of energy budget among six teleosts-IV. Individual differences in growth and energy budget Tamar Benshalom-Shimony and Electric capacitance and current of the Oriental hornet silk Jacob S. Ishay cocoon cap Ching-Fong Chang and Mei-Ru Chen Fluctuation in sex steroids and sex steroid-binding protein 565 during the development and annual cycle of the male common carp, Cyprinus carpio Lawrence E. Licht and James P. Bogart 569 Comparative rates of oxygen consumption and water loss in diploid and polyploid salamanders (genus Ambystoma) R. W. Rose, R. Swain and S. L. Bryant Body temperature: rhythm and regulation in the Tasmanian bettong (Bettongia gaimardi) (Marsupialia: Potoroidae) 577 Ionic conductances in two types of sensory neurons in the Jørgen Johansen and Anna L. Kleinhaus leech. Macrobdella decora G. Theophilidis and V. K. Dimitriadis The structure and innervation of the metathoracic flexor tibiae muscle of two species of Orthoptera (Insecta) 595 Hematology and blood chemistry in captive Dorcas gazelles V. Peinado, G. Viscor and J. Palomeque and blackbucks 601 Propagation of impulse in the heart of the beetle Allomyrina Arinobu Ebara, Hatsumi Akiyama, Hiroshi Yamagishi and Hisashi Ohshima dichotomus

Øivind Andersen, Charles Kimwele, Arnfinn Aulie and Titus Kanui

- J. A. Alonso, J. C. Alonso, R. Muñoz-Pulido, M. A. Naveso, M. Abelenda, V. Huecas and M. L. Puerta
- W. H. Gingerich, R. A. Pityer and J. J. Rach
- 607 Effects of recombinant human growth hormone in juvenile Nile crocodiles (Crocodylus niloticus)
- 611 Hematology and blood chemistry of free-living young Great Bustards (Otis tarda)
- 615 Whole body and tissue blood volumes of two strains of rainbow trout (Oncorhynchus mykiss)
- 621 Book Reviews

